

Manual J Winter Calculations

Residential Load - Component Details (continued)

N/A
218 SW Granite Court
Lake City, FL 32024

Project Title:
Lot 18 Wingate
Building Type: User

5/12/2020

Infiltration	Type Natural	Wholehouse ACH 0.18	Volume(cuft) 17190	Wall Ratio 1.00	CFM= 51.7	2264 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att)				(DLM of 0.223)	5445 Btuh
All Zones	Sensible Subtotal All Zones					29815 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	29815 Btuh
	Ventilation Sensible Heat Loss	0 Btuh
	Total Heat Loss	29815 Btuh

EQUIPMENT

1. Electric Heat Pump	#	29535 Btuh
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Key: Window types - NFRC (Requires U-Factor and Shading coefficient(SHGC) of glass as numerical values)
or - Glass as 'Clear' or 'Tint' (Uses U-Factor and SHGC defaults)

U - (Window U-Factor)

HTM - (ManualJ Heat Transfer Multiplier)



Version 8

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

N/A
218 SW Granite Court
Lake City, FL 32024

Project Title:
Lot 18 Wingate

5/12/2020

Reference City: Gainesville, FL

Temperature Difference: 19.0F(TMY3 99%) Humidity difference: 51gr.

Component Loads for Whole House

Window	Type*						Overhang		Window Area(sqft)			HTM		Load
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
1	2 NFRC	0.25, 0.36	No	No	E		5.0ft.	0.5ft.	30.0	18.3	11.8	12	31	584 Btuh
2	2 NFRC	0.25, 0.36	No	No	E		9.0ft.	1.0ft.	13.3	12.9	0.4	12	31	169 Btuh
3	2 NFRC	0.25, 0.36	No	No	E		1.5ft.	0.5ft.	36.0	4.5	31.5	12	31	1030 Btuh
4	2 NFRC	0.25, 0.36	No	No	N		1.5ft.	1.0ft.	30.0	0.0	30.0	12	12	363 Btuh
5	2 NFRC	0.25, 0.36	No	No	N		1.5ft.	1.0ft.	20.0	0.0	20.0	12	12	242 Btuh
6	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	30.0	1.5	28.5	12	31	901 Btuh
7	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	16.0	1.0	15.0	12	31	477 Btuh
8	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	6.0	0.5	5.5	12	31	176 Btuh
9	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	0.5ft.	36.0	4.5	31.5	12	31	1030 Btuh
10	2 NFRC	0.25, 0.36	No	No	S		5.0ft.	0.5ft.	36.0	36.0	0.0	12	14	436 Btuh
11	2 NFRC	0.25, 0.36	No	No	W		12.0f	0.5ft.	54.0	54.0	0.0	12	31	653 Btuh
12	2 NFRC	0.25, 0.36	No	No	W		12.0f	1.0ft.	20.0	20.0	0.0	12	31	242 Btuh
13	2 NFRC	0.25, 0.36	No	No	S		1.5ft.	0.5ft.	60.0	60.0	0.0	12	14	726 Btuh
Excursion														1137 Btuh
Window Total									387 (sqft)					8165 Btuh
Walls	Type					U-Value	R-Value	Area(sqft)			HTM		Load	
							Cav/Sheath							
1	Frame - Wood - Ext					0.09	13.0/0.0	60.0			2.3		136 Btuh	
2	Frame - Wood - Ext					0.09	13.0/0.0	54.0			2.3		122 Btuh	
3	Frame - Wood - Ext					0.09	13.0/0.0	41.7			2.3		94 Btuh	
4	Frame - Wood - Ext					0.09	13.0/0.0	63.0			2.3		143 Btuh	
5	Frame - Wood - Ext					0.09	13.0/0.0	63.0			2.3		143 Btuh	
6	Frame - Wood - Adj					0.09	13.0/0.0	187.0			1.7		315 Btuh	
7	Frame - Wood - Ext					0.09	13.0/0.0	316.0			2.3		715 Btuh	
8	Frame - Wood - Ext					0.09	13.0/0.0	221.0			2.3		500 Btuh	
9	Frame - Wood - Ext					0.09	13.0/0.0	60.0			2.3		136 Btuh	
10	Frame - Wood - Ext					0.09	13.0/0.0	91.0			2.3		206 Btuh	
11	Frame - Wood - Ext					0.09	13.0/0.0	120.0			2.3		272 Btuh	
Wall Total									1277 (sqft)					2782 Btuh
Doors	Type							Area (sqft)			HTM		Load	
1	Insulated - Exterior							20.0			13.8		276 Btuh	
2	Insulated - Garage							20.0			13.8		276 Btuh	
Door Total									40 (sqft)					552 Btuh
Ceilings	Type/Color/Surface					U-Value	R-Value	Area(sqft)			HTM		Load	
1	Vented AtticLight/Shingle/RB					0.025	38.0/0.0	2006.0			0.86		1731 Btuh	
Ceiling Total									2006 (sqft)					1731 Btuh
Floors	Type						R-Value	Size			HTM		Load	
1	Slab On Grade						0.0	1910 (ft-perimeter)			0.0		0 Btuh	
Floor Total									1910.0 (sqft)					0 Btuh
Envelope Subtotal:													13229 Btuh	

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Project Title:
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Climate:FL_GAINESVILLE_REGIONAL_A

5/12/2020

Infiltration	Type Natural	Average ACH 0.14	Volume(cuft) 17190	Wall Ratio 1	CFM= 38.8	Load 806 Btuh
Internal gain		Occupants 5	Btuh/occupant X 230	Appliance +	1200	Load 2350 Btuh
					Sensible Envelope Load:	16386 Btuh
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic)				(DGM of 0.302)	4943 Btuh
					Sensible Load All Zones	21329 Btuh

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Climate: FL_GAINESVILLE_REGIONAL_A

5/12/2020

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	16386 Btuh
	Sensible Duct Load	4943 Btuh
	Total Sensible Zone Loads	21329 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	21329 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	1338 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1327 Btuh
	Latent occupant gain (5.0 people @ 200 Btuh per person)	1000 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3665 Btuh
	TOTAL GAIN	24993 Btuh

EQUIPMENT

1. Central Unit	#	23722 Btuh
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*Key: Window types (Panels - Number and type of panes of glass)
 (SHGC - Shading coefficient of glass as SHGC numerical value)
 (U - Window U-Factor)
 (InSh - Interior shading device: none(No), Blinds(B), Draperies(D) or Roller Shades(R))
 - For Blinds: Assume medium color, half closed
 For Draperies: Assume medium weave, half closed
 For Roller shades: Assume translucent, half closed
 (IS - Insect screen: none(N), Full(F) or Half(½))
 (Ornt - compass orientation)



Version 8